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W. L. Lippert  
PATENT 9/9/98  
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9/9/98

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. SERIAL NO.: 08/803,914 § GROUP ART UNIT: 2736  
FILING DATE: Feb. 21, 1997 § EXAMINER: J. Tweel  
APPLICANT: Paul A. Brown § ATTY. DKT. NO.: NRW:006  
ORIGINAL TITLE: §  
TRANSMISSION NETWORK § EXPEDITED EXAMINING PROCEDURE  
AND FILTER THEREFOR §

RESPONSE TO FINAL OFFICIAL ACTION

BOX AF  
Honorable Assistant Commissioner  
for Patents  
Washington, D.C. 20231

Dear Sir:

This is a response to the Final Official Action dated April 30, 1998.

The Final Official Action did not acknowledge receipt of applicant's priority document, United Kingdom 9,222,205 filed Oct. 22, 1992. Applicant's priority claim was acknowledged in the Summary and on page 2 of the Official Action dated Sept. 5, 1997, Paper No. 7, yet that Official Action said that none of the certified copies of the priority documents have been received. The applicant continues to claim priority of United Kingdom 9,222,205 filed October 22, 1992 pursuant to 35 U.S.C. § 119. As stated in the applicant's response received on Feb. 9, 1998, applicant has filed a certified copy of the GB 9222205.8 application in the parent application Serial No. 08/347,427 filed Nov. 24, 1994, and receipt of that certified copy was acknowledged in the Official Action dated March 6, 1996, Paper No. 5 in the parent application. Pursuant to M.P.E.P. §

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201.14(b), applicant need not submit another certified copy when a certified copy of the priority document has been received in the parent application. The applicant therefore respectfully requests the Examiner to acknowledge that the certified copy has been received in Application Serial No. 08/347,427. If the Patent and Trademark Office no longer follows the procedure of M.P.E.P. §201.14(b) or for some reason needs another copy of the priority document, the applicant would like to know as soon as possible. In this case, please telephone the undersigned at (713) 787-1698.

In paragraph 3 of the Final Official Action, claims 9-28 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Whyte U.S. Patent 3,942,170, in view of Shuey U.S. Patent 4,766,414. The applicant respectfully traverses, and requests reconsideration in view of the following remarks.

The Final Official Action recognizes that Whyte "does not utilize the main inductor to allow a low frequency power signal to pass through the inductor in a low impedance path from the network to the electricity output." The Final Official Action further recognizes that "the coupling capacitor [of Whyte] does not allow a telecommunication signal to pass through in a path between the input and signal input/output line to attenuate low frequency components."

The Final Official Action cites Shuey for showing a tuned

circuit for connection to a transmitter of a power line communication system. Shuey says that the tuned circuit comprises components selected to provide a low impedance path to ground for a power line communication signal of a preselected frequency.

The Final Official Action concludes that it would have been obvious to combine Whyte and Shuey so as "to include a main inductor to allow a low frequency high amplitude mains electricity power signal to pass through a low impedance path for the purpose of preventing the reception of power line communication messages by receivers for which the messages were not intended."

The applicant respectfully traverses because the proposed combination of Whyte and Shuey does not suggest the applicant's invention as set out in each of the applicant's independent claims (9, 14, and 18). Neither Whyte nor Shuey uses a main inductor to allow a low frequency power signal to pass through the inductor in a low impedance path from the network to the electricity output. Nor would such a main inductor in a low impedance path from the network to the electricity output prevent the reception of power line communication messages by receivers for which the messages were not intended. Therefore, it is not seen how the combination of Whyte and Shuey suggests the applicant's invention.

For example, the electricity output in applicant's network should not be shorted to ground by a switch. Moreover, the main inductor in the applicant's network is intended to prevent, rather than permit, the application of the communication signal to the electricity output. Furthermore, in Shuey, the capacitor 52 prevents the low frequency high amplitude mains electricity power signal from passing through the inductor L1, so that the inductor L1 in Shuey is not analogous to the main inductor in the applicant's invention. Therefore, it is not seen how the cited teaching of Shuey is pertinent to the applicant's use of a main inductor.

Due to the substantial differences in the structure, operation, and advantages of the applicant's claimed invention in comparison to the disclosures of Whyte and Shuey, it is apparent that improper hindsight would be needed to select White and Shuey for combination, and then modify that combination in order to reconstruct the applicant's invention. Hindsight reconstruction, using the applicant's specification itself as a guide, is improper because it fails to consider the subject matter of the invention "as a whole" and fails to consider the invention as of the date at which the invention was made. The critical inquiry is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. In re Fritch, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d

1780, 1784 (Fed. Cir. 1992) ("It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious."); Fromson v. Advance Offset Plate, Inc., 755 F.2d 1549, 1556, 225 U.S.P.Q. 26, 31 (Fed. Cir. 1985) (nothing of record plainly indicated that it would have been obvious to combine previously separate lithography steps into one process). See, for example, In re Gordon et al., 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (mere fact that prior art could be modified by turning apparatus upside down does not make modification obvious unless prior art suggests desirability of modification); Ex Parte Kaiser, 194 U.S.P.Q. 47, 48 (PTO Bd. of Appeals 1975) (Examiner's failure to indicate anywhere in the record his reason for finding alteration of reference to be obvious militates against rejection).

Applicant's claim 14 is further distinguished from Whyte and Shuey. The capacitor and fuse connected between the distribution transformer (No. 26) and the unidirectional coupler (No. 70) from the transmitter/receiver combination in Whyte appears to be connected between a signal output line from the transmitter (No. 113) and what would be the mains electricity output of the communications apparatus, instead of the mains electricity input as recited in applicant's claim 14.

With respect to claims 11, 15, and 18, the Final Official

Action says that the claimed shunt capacitor is met by the capacitors (e.g. 98) that are connected between stepdown transformers or power output and ground. However, claims 11 and 15 were amended to particularly point out that the shunt capacitor is for shunting to ground any of the telecommunication signal having passed to the mains electricity output. The capacitors of Whyte referred to in the Final Official Action as "shunt capacitors" are series coupling capacitors for coupling the communications signals onto the power lines, and they are not shunt capacitors for shunting any of the communication signals to ground. For example, the capacitor 98 has one plate connected to the power line via the fuse, and another plate connected to an inductor 100 and the transmitter 76 instead of to ground so that the communications signal is not shunted to ground. If the communications signal were shunted to ground, and it is not, then the communications signal transmitted by the transmitter 96 would pass to ground instead of being coupled through the capacitor 96 and through the fuse onto the power line as desired. The inductance of the inductor 100 is therefore intended to prevent the communications signal from being shunted to ground. The applicant's claimed shunt capacitor has a connection and function directly opposite to the connection and function of the series coupling capacitor 98 of Whyte.

The Final Official Action continues to make an unsupported

suggestion that it is commonly known to make high-current, power-line inductors made by wrapping conductive material around an elongated ferrite rod. In addition, the Final Official Action claims that shunt capacitors are widely used to control excess voltage in case of a current load in an electric circuit, and suggests that it is commonly known to make a high-current, power-line inductor using two parallel-spaced elongated rods. It should be clear that the Patent and Trademark Office has the burden of coming forward with supporting evidence. The applicant should have the opportunity to determine the pertinence of whatever evidence the Final Official Action is referring to in the context of the language of applicant's claims and the problem solved by the applicant's invention. In particular, it is not clear whether the Official Action is referring to anything more than the well-known ferrite rod antenna having conductive material wrapped around an elongated ferrite rod.

With reference to claims 20, 23, and 26, the Final Official Action recognizes that the 12.5 kilohertz signal of Shuey is different from a communications signal using a frequency in excess of one megahertz. The fact that the applicant's apparatus could be used with a narrow band modulation technique at a frequency of less than one megahertz is immaterial. What is relevant is the fact that the applicant's apparatus can be used with wide band modulation techniques at a frequency of at least

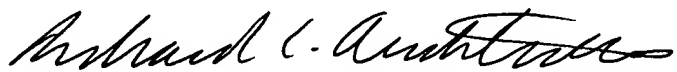
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one megahertz to provide advantages not obtainable with narrow band modulation at a frequency of less than one megahertz. The applicant's apparatus can be used with wide band modulation techniques at a frequency of at least one megahertz to provide a high data rate to support an increased number of users or to support higher data-rate services. Moreover, as discussed in the applicant's specification on page 2, the use of frequencies of at least one megahertz for propagation of signals over power lines external to buildings may suffer from attenuation and radiation effects and therefore lower frequencies of less than one megahertz have been recommended. The applicant's specification teaches how to overcome these apparent problems.

In view of the above, it is respectfully submitted that the application is in condition for allowance. Early allowance is earnestly solicited.

Signed at Houston, Harris County, Texas this 30<sup>th</sup> day of June, 1998.

Respectfully submitted,



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